

CLEAN SET OF PENDING CLAIMS

98. A method for cleaning a semiconductor wafer comprising:

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- (a) rotating a wafer in a processing chamber;
 - (b) contacting a surface of the wafer with a heated aqueous solution and simultaneously providing ozone gas into a gas/vapor atmosphere within the processing chamber in an amount sufficient to create an oxidizing effect on the surface of the wafer to oxidize contaminants thereon; and
 - (c) removing oxidized contaminants from the surface thereof.

99. A method as defined in claim 98 wherein the aqueous solution is water.

100. A method as defined in claim 98 wherein the aqueous solution contains an acid.

101. A method as defined in claim 98 wherein the aqueous solution is sprayed onto the surface of the wafer to form a thin aqueous film thereon.

102. A method as defined in claim 98 wherein the aqueous solution is adjusted to a temperature sufficient to effect oxidation on the surface of the wafer.

103. A method as defined in claim 98 wherein the contaminants are removed by rinsing.

104. A method as defined in claim 98 wherein the ozone is injected into the processing chamber.

105. A method as defined in claim 98 wherein the ozone is admixed with a carrier gas.

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106. A method as defined in claim 105 wherein the carrier gas is selected from the group consisting of oxygen, nitrogen, air and inert gas.

119. The method of claim 98 wherein the ozone is provided as a gas around the semiconductor wafer.

120. The method of claim 98 wherein the ozone is provided in an ozone/liquid solution.

121. The method of claim 98 wherein the ozone/liquid solution is supplied separately from the heated aqueous solution.

122. A method for cleaning organic material from a surface of a workpiece comprising:

(a) spraying a heated aqueous solution onto the surface of the workpiece and simultaneously contacting the surface with ozone to effect oxidation of the organic materials on the surface of the workpiece to oxidize the contaminants; and

(b) removing oxidized contaminants from the surface.

123. The method of claim 122 wherein the aqueous solution comprises water.

124. The method of claim 122 wherein the aqueous solution comprises an acid.

Sub G1 125. The method of claim 122 wherein the aqueous solution forms a thin aqueous film on the surface of the workpiece.

126. (Amended) The method of claim 122 wherein the organic material comprises a photoresist.

127. (Amended) A method for cleaning an organic material off of a surface of a semiconductor article comprising:

F2 placing the article into a processing chamber;

spraying the surface of the article with a heated aqueous solution, while simultaneously contacting the surface of the article with ozone in an amount sufficient to oxidize the organic material;

removing the oxidized organic material from the surface of the article; and

removing the article from the processing chamber without performing a separate rinsing step.

128. The method of claim 127 further including the step of rotating the article.

129. The method of claim 127 wherein the aqueous solution and the ozone are sprayed onto the surface of the article in solution form.

130. The method of claim 127 wherein the aqueous solution is heated to a temperature between 50° C and 90° C.